Hans van der Poel B.V.

MECHANISATIE & MACHINEBOUW

Amaryllis Sorting System
ASM 640

User's Manual

Mechanization & Machinery
Hans van der Poel B.V.
Veenderveld 51
2371 TT Roelofarendsveen
Tel. +31 (0)71 3315278
info@hansvanderpoel.com
www.hansvanderpoel.com

Amaryllis Sorting System - **User's Manual**

1. Introduction 3

2. Application and Function 4

3. Settings sorting system 5

4. Safety instructions and precautions 8

5. Technical data 10

6. Start up 10

7. Maintenance 11

Enclosure I Description control system
Enclosure II Wiring diagrams

1. Introduction

We are pleased that you have chosen our Amaryllis Sorting System. The ASM 640 Sorting System is developed to simplify the sorting of amaryllis bulbs. Sorting bulbs is a difficult matter because of a large variation of bulbs: Round or flat, white or black, dry or washed.

You will have at your disposal an excellent performing piece of equipment, constructed with care and manufactured from the best possible materials available. By following the instructions in this user's manual with regard to safety, use and maintenance, you will get the best return on your investment.

We recommend therefore reading the manual carefully and following the instructions. You should keep this user's manual within reach of the Amaryllis Sorting System.

Hans van der Poel B.V is not legally responsible for damage and indirect damage due to operating errors, lack of correct maintenance and/or any way of use which is not described in this manual.

The responsibility of Hans van der Poel B.V expires also as soon as you or any third person, without written agreement from Hans van der Poel B.V, executes any operation like adjustments or extensions to the function of the Amaryllis Sorting System or its accessories.

Hans van der Poel B.V continuously strives for improvement of our physical products and offerings. Hans van der Poel B.V reserves the right to alter the specification shown without prior notice.

2. Application and Function

2.1. Application

Amaryllis Sorting System. The ASM 640 Sorting System is developed to simplify the sorting of amaryllis bulbs. Sorting bulbs is a difficult matter because of a large variation of bulbs: Round or flat, white or black, dry or washed. The sorting machine is controlled by a computer and the bulbs are sorted with a camera.

The product that lies on the conveyor band moves through a camera unit and is 'watched'. After being lighted by an infra-red light the computer decides by which sorting stations (inverted size) the bulbs should be thrown out. This process only takes a small period of time. A conveyor belt moves the bulbs to the right sorting station and they will be thrown out.

The accuracy of the sorting system is 98%. Therefore you do not have the measure the bulbs before packaging. The ASM sorting system ends a method of inaccurate and time-consuming sorting of bulbs.

The Amaryllis Sorting System is available in only one execution and is suitable for sorting Amaryllis bulbs. The Amaryllis Sorting System is not watertight and should therefore be used indoor only. Using it outdoor may cause shortcuts in the electric installation.

The Amaryllis Sorting System may only be used for above mentioned application. Any other application is strictly prohibited.

2.2. Function

After installation of the Amaryllis Sorting System you should connect the plug in the socket and connect the air supply. Furthermore you should establish the right settings and the Amaryllis Sorting Machine is ready for operation.

3. Settings sorting system

Software description

The program starts automatically as soon as you start the computer.
If the program does not start you can op the sorting program by clicking on →

The following screen appears:

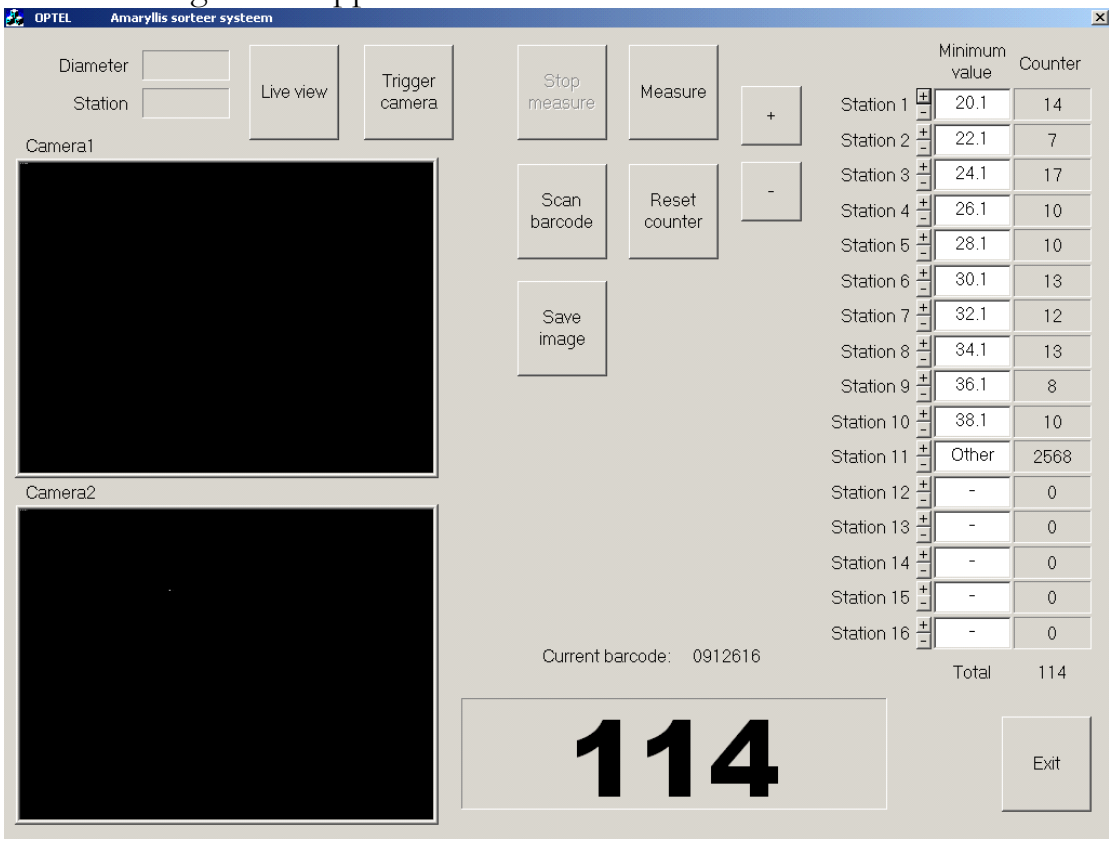


Figure 1 Screen after starting program

In this screen you find all kind of information about the amaryllis sorting system. In the left upper corner you'll find the diameter and matching sorting station of a bulb that just went trough the vision area. Below these figures you see images of the bulbs from the view of the camera. On the right side of the screen you can see the minimum sorting boundaries of each class bulb in a table. Next to these boundaries are the numbers of bulbs that are being thrown out by each sorting station starting from the moment you have reset the counters. When you shut down and restart the program the computer system maintains these values (unless there is a sudden power failure, the values will not be saved!).

The amaryllis sorting system has two conditions: In measure position and off measure position. Before the system starts (off measure position) you can adjust all settings or you can get a live view of the camera. The system will start measuring in the measure position. Below you find a description of the different buttons on this screen.

Description of buttons

'Measure'

If you push the 'measure' button the system is ready for operation (the system is in measure position). When the system gets a trigger signal the bulb is being measured and the results are shown in the upper left corner of the screen. The measure device is now in the normal situation. All other buttons get a grey colour when you have pushed the 'measure' button. This means that you can not change any settings. Only the button 'Stop measure' pops up.

'Stop Measure'

By pushing the button 'Stop measure' the system stops measuring bulbs (the system is in the off measure position). Incoming trigger signals will not be processed by the system. All other buttons will pop up:

- Live view
- Scan barcode
- Reset counters
- Save image
- Exit

Furthermore you can now adjust the ***settings of station boundaries***. You should do this in the table on the right side off the screen. If the minimum boundary is bigger then the next minimum value, all boundaries are adjusted automatically. If the minimum value is smaller then the previous value all boundaries are also being adjusted automatically. You have the following options:

- When you push one of the small buttons '+' or '-' the minimum boundary of *one* sorting station goes 0.1 up or 0.1 down.
- When you push one of the big buttons '+' or '-' the minimum boundaries of *all* sorting stations go 0.1 up or 0.1 down.
- By adjusting a positive value to the number '-1' the sorting station switches off. The previous station gets the class remaining bulbs.
- If you change the stripe (= means station is switched off) to another value all stations in between will be switched on. The first following stations switches automatically to the class remaining bulbs.

When you move the mouse to another field the inverted boundaries are saved.

'Live View'

If you click with the mouse on the button 'live view' you get a live view of the camera. This is very handy for testing and monitoring the bulb holders or the light source. By another click on the button the live view from the camera stops.

'Scan Barcode'
If you push the button 'Scan Barcode' the system requires you to scan a barcode. After scanning the barcode will be shown in the screen. The results of the previous barcode will be saved in a file. The file name will be [old barcode].txt. The file shows the following contents:

[old barcode] [station number] [number of counted bulbs] …….. [station number] [number of counted bulbs] [new barcode]

After saving the system reminds you to push the button 'Reset counters' to reset all counters to zero. When the total amount of bulbs is zero it is not possible to save all data to a file.

'Reset counters'
When you push the button 'Reset counters' the counters of each sorting station and the total amount of bulbs will be reset to zero.

'Save Image'
By pushing this button the computer saves the current camera view to the file 'Orig1.bmp'. This way you can keep images which give problems. De system rewrites the file 'Orig1.bmp' if it already exists.

'Exit'
With this button all the minimum boundaries and counters of each station will be saved and the system shuts down.

H4 Safety instructions and precautions

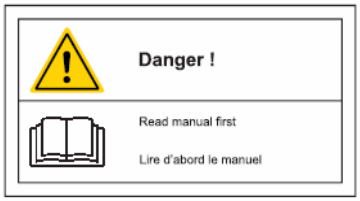
You are responsible for the *safe* operation and maintenance of your Amaryllis Sorting System. You must ensure that you and anyone else, who is going to operate, maintain or work around the system be familiar with the operating and maintenance procedures and related *safety* information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices while operating the Amaryllis Sorting System.

Remember, *you* are the key to safety. Good safety practices not only protect you but, also the people around you. Make these practices a working part of your safety program. Be certain that *everyone* operating this device is familiar with the procedures recommended and follows safety precautions. Remember most accidents can be prevented. Do not risk injury by ignoring good safety practices.

- Amaryllis Sorting System owners must give operating instructions to operators or employees before allowing them to operate the system, and at least annually thereafter.
- The most important safety device on this equipment is a *safe* operator. It is the operator's responsibility to read and understand ALL safety and operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate this device.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment, operator and bystanders.
- Use genuine parts only and have them installed by authorized technicians, provided that the necessary instructions are not available.
- Think SAFETY! Work SAFELY!

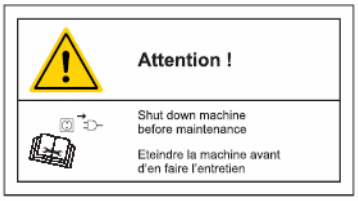
Press the emergency button to shut down the system immediately:

→ Safety decals located on the Amaryllis Sorting System contain important and useful information that will help you operate your device safely. Assure yourself that all safety decals remain in place and in good condition.



Notice! Danger for serious damage.
Read the user's manual of the Amaryllis Sorting System in order to know how to position the machine before starting operation.

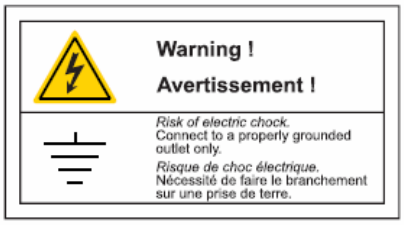
Notice! Danger for injury.
Before maintenance work:



- Read the manual.
- Make sure the plug is taken out from the wall socket.

Make sure that no one else, by accident or due to misunderstanding, re-plugs the plug in the wall socket during maintenance work.

Notice! Danger for injury.
Danger for injuries if you get stuck to the rotating parts of the supply conveyer.



Notice! Danger for shortcuts
The electric connection must correspond to specification on the type plate. Cable diameter, safety fuse, earth connection etc. shall be in accordance with local requirements and be done by an authorized electrician.

Notice! Danger for injury.
Make sure other operators are informed about the safety precautions as well as installation procedure.

Notice! Danger for injury.
Loose hanging clothes should not be used when being close to the Amaryllis Sorting System. Long hair should be protected.

Notice! Danger for injury.
Keep children away from the Amaryllis Sorting System.

Notice! Danger for injury.
Take care that all warnings stickers are clearly visible. If they are not legible, they should be replaced.

Notice! Danger for injury.
Repair and maintenance only to be executed by authorized people and only original and CE-certified spare parts should be used.

Notice! Danger for serious injury.
The Amaryllis Sorting System may only be used for the purpose it is meant for as described in chapter 4 of this user's manual: Application and Functioning.

5. Technical Data

- 1150x180x211 cm
- 2174 kg
- 380V 3phase + N + ground
- 2.50 KVA

Should show a minimum of 7 bar

6. Start up

Make sure the electrical connection fulfils the general and local requirements (Low voltage directive 73/23/EU and NEN 1010) and that it is within reach from the Freesia Planting Machine.
The Freesia Planting Machine shall be greased and set properly.
Check if the machine runs smoothly. If not, switch off the mains connection immediately.

7. Maintenance

Follow the safety precautions during maintenance work!

- Disconnect the plug from the wall socket before starting maintenance work.
- For 100% safety the fuse can be removed from the main switch board.
- Clean the Amaryllis Sorting System carefully before starting maintenance.
- Maintenance only to be executed by authorized persons.
- Consult always your dealer if you have any doubts.
- The following maintenance instructions are based on normal use. At intensive use or use at extreme circumstances the maintenance intervals should be shortened.

7.1. Daily

- Check the oil twice a day during operation. When the reservoir is almost empty fill the reservoir with oil type SAE30:

- Check if the air pressure is minimum 7 bar
- Check if the compressor has enough capacity

7.2. Weekly

- Make shure you drain the water every week:

- Check if there is any damage on the machine.

7.3. Monthly

- You should lubricate the bearings regularly